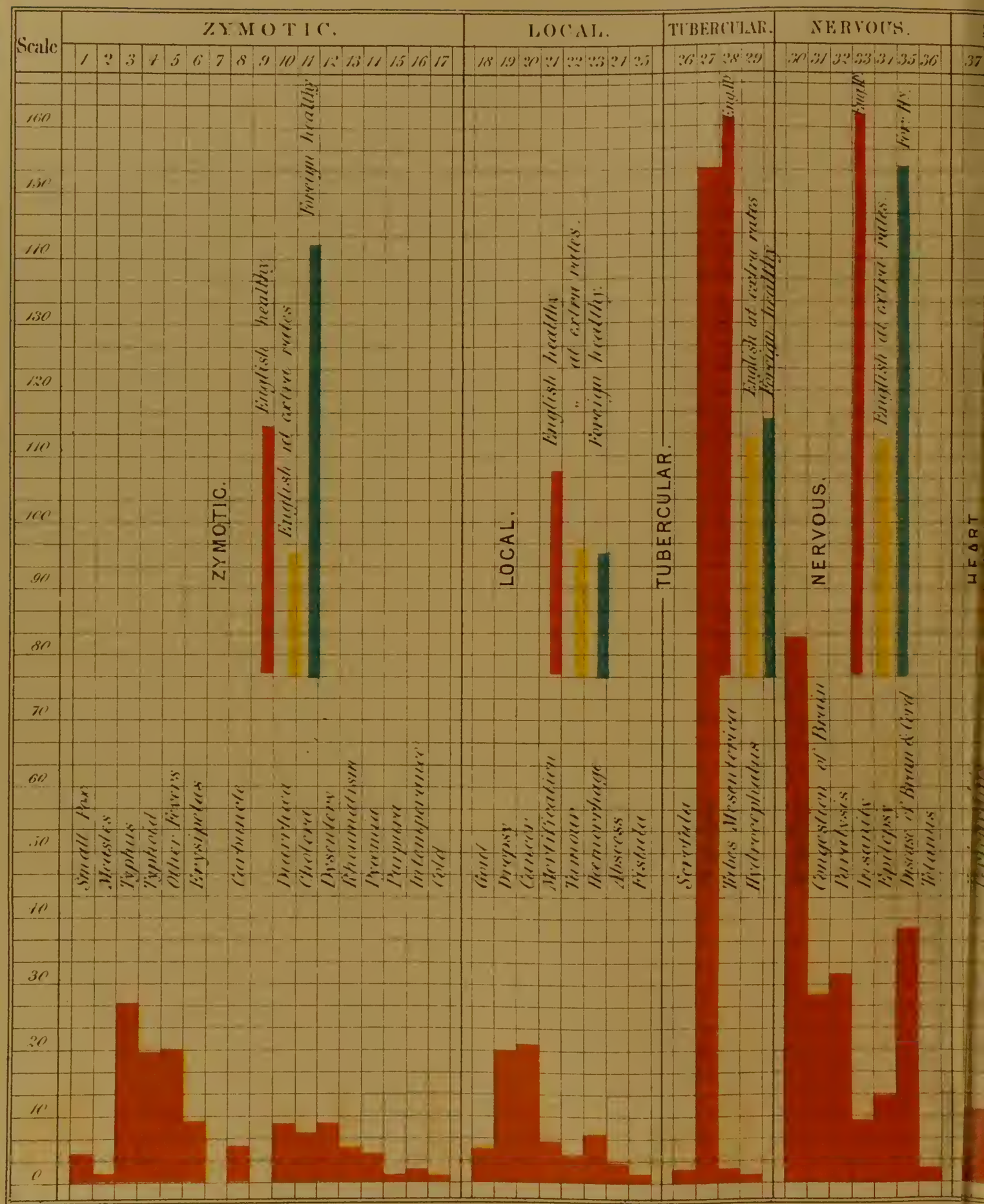
2

DIAGRAM FOR



F. Allan Curtis.fecit.

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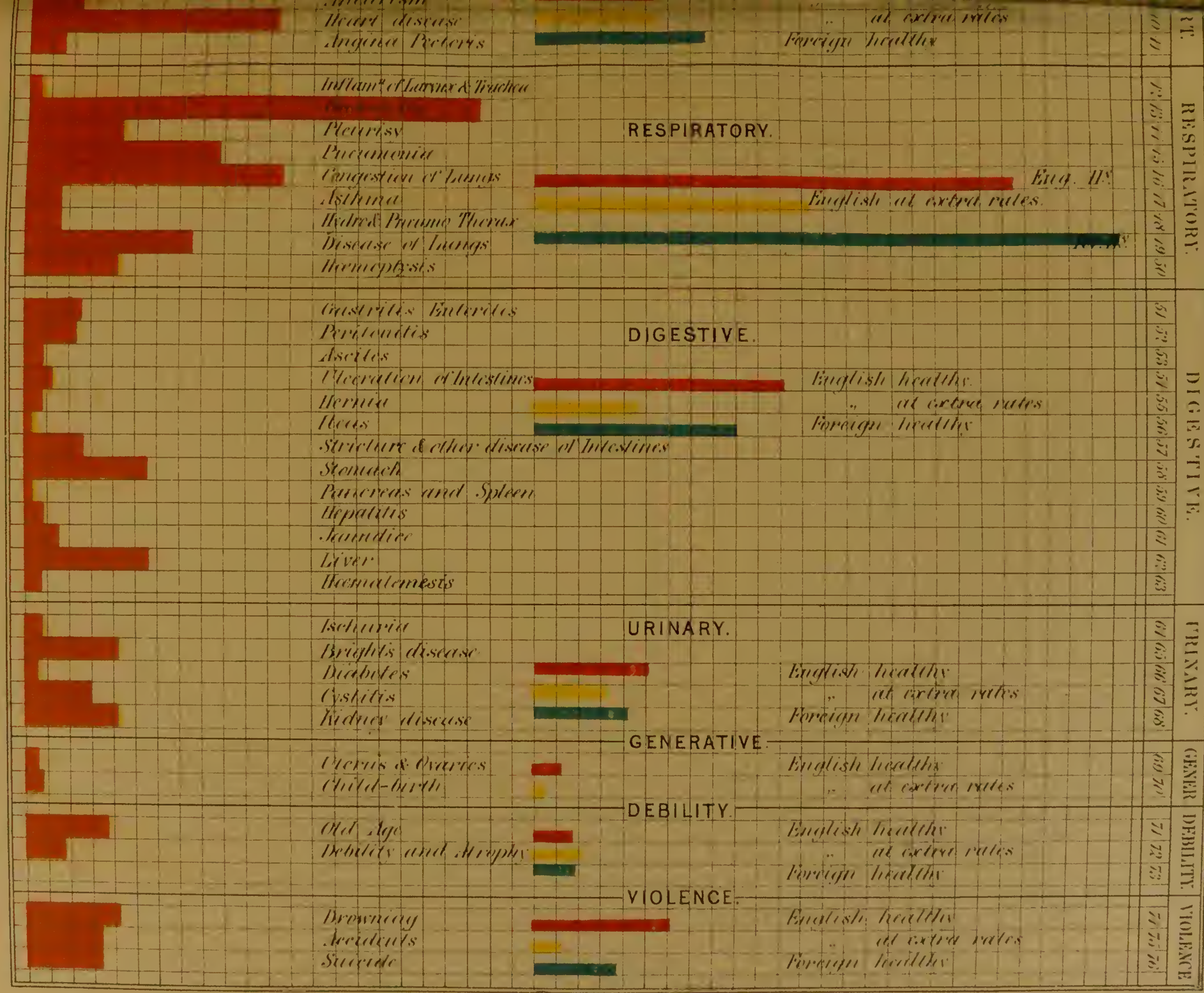
RT.
Heart disease
Angina Pectoris
English healthy
" at extra rates
Foreign healthy
RESPIRATORY.
Inflam^n of Larynx & Trachea
Pleurisy
Pneumonia
Congestion of Lungs
Asthma
Hydro & Pneumo Thorax
Disease of Lungs
Hæmoptysis
Eng. H^s.
English at extra rates.
DIGESTIVE.
Gastritis Enteritis
Peritonitis
Ascites
Ulceration of Intestines
Hernia
Piles
Stricture & other disease of Intestines
Stomach
Pancreas and Spleen
Hepatitis
Jaundice
Liver
Hæmatemesis
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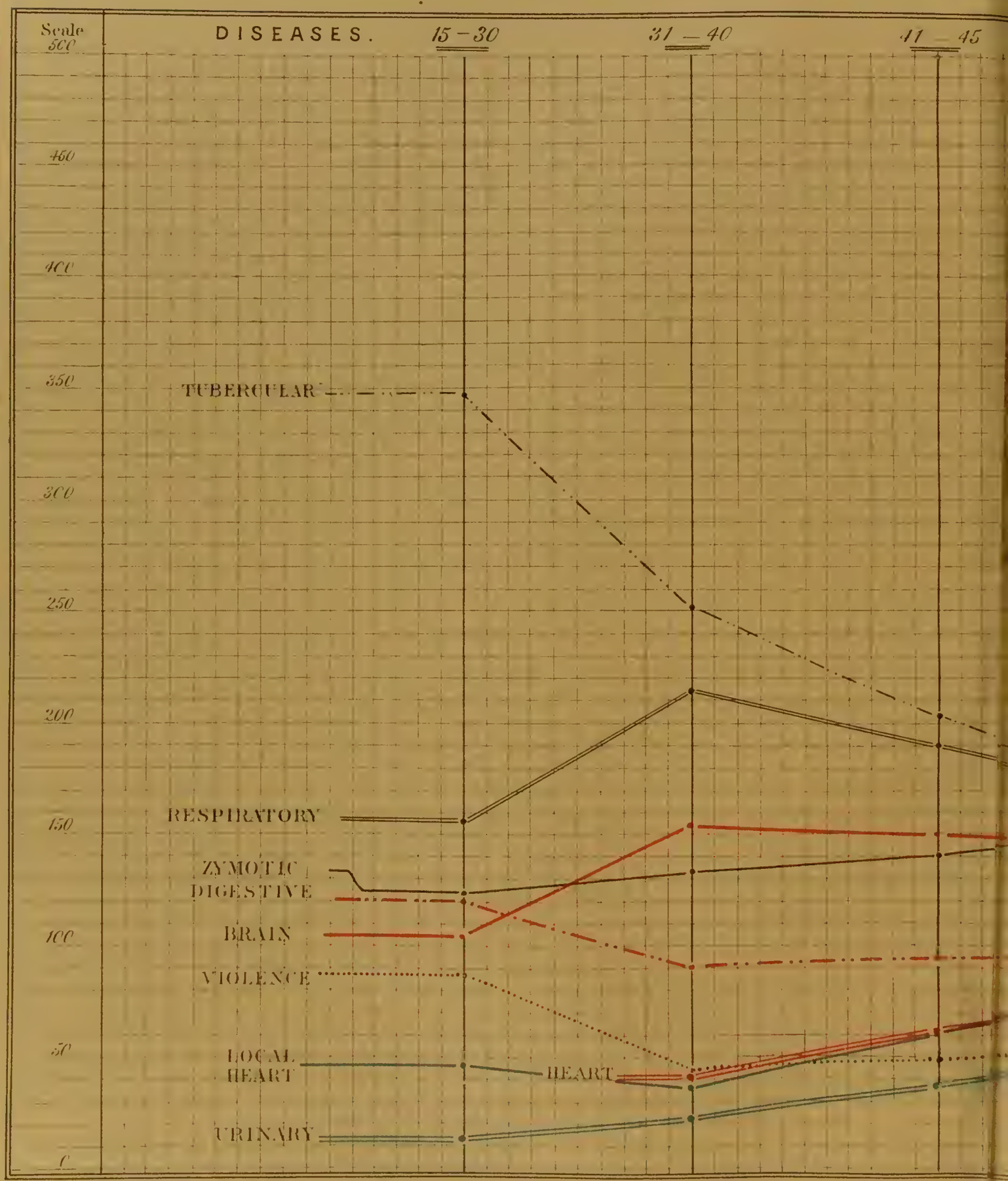
Foreign healthy
URINARY.
Ischuria
Bright's disease
Diabetes
Cystitis
Kidney disease
English healthy
" at extra rates
Foreign healthy
GENERATIVE.
Uterus & Ovaries
Child-birth
English healthy
" at extra rates
DEBILITY.
Old Age
Debility and Atrophy
English healthy
" at extra rates
Foreign healthy
VIOLENCE.
Drowning
Accidents
Suicide
English healthy
" at extra rates
Foreign healthy
RESPIRATORY.
DIGESTIVE.
URINARY.
GENER
DEBILITY.
VIOLENCE

TAB

TABLE SHEWING THE PROPORTION OF DEATHS FI
ACCORDING TO THE EXPERIENCE OF "THE CRES



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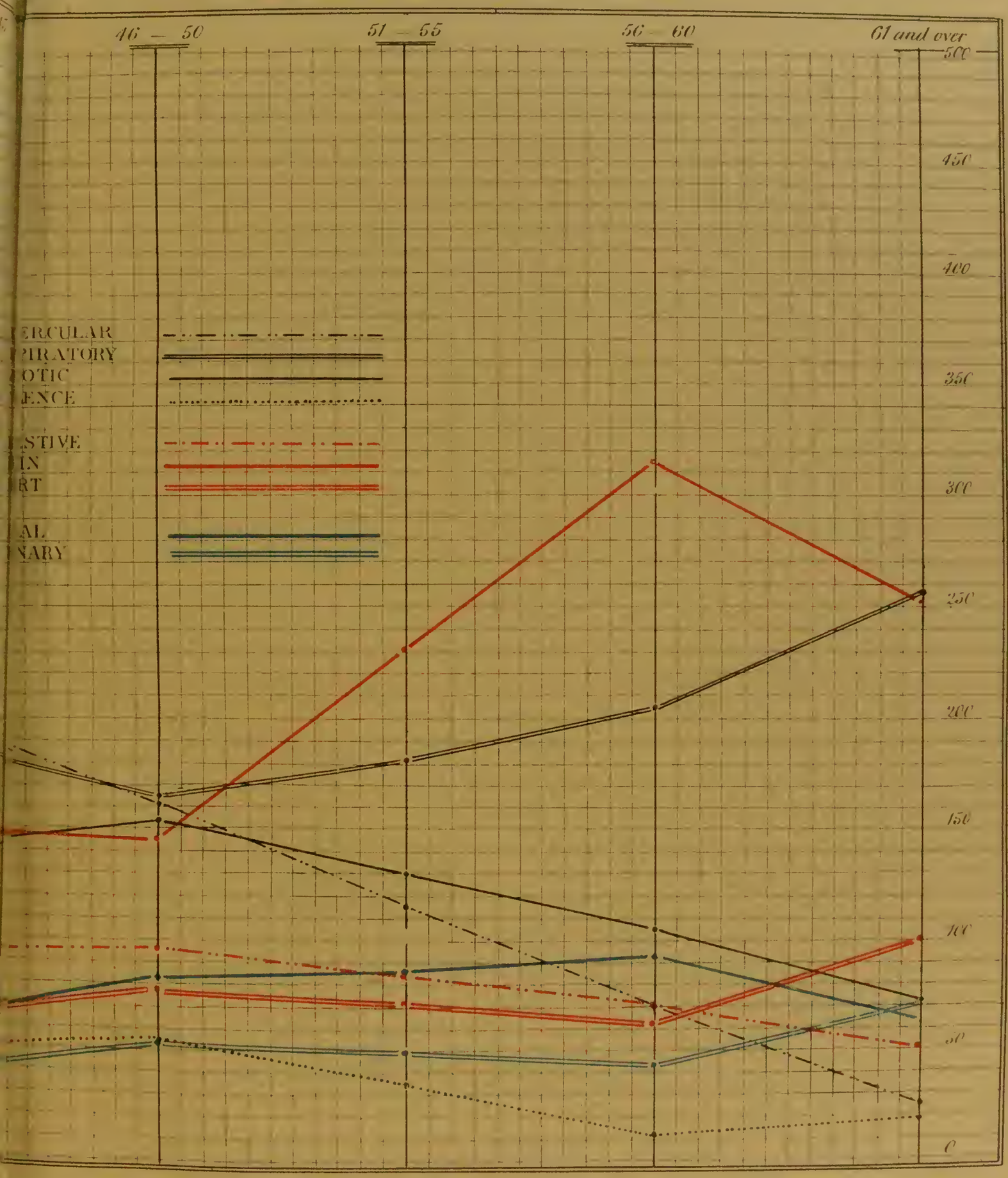
C .

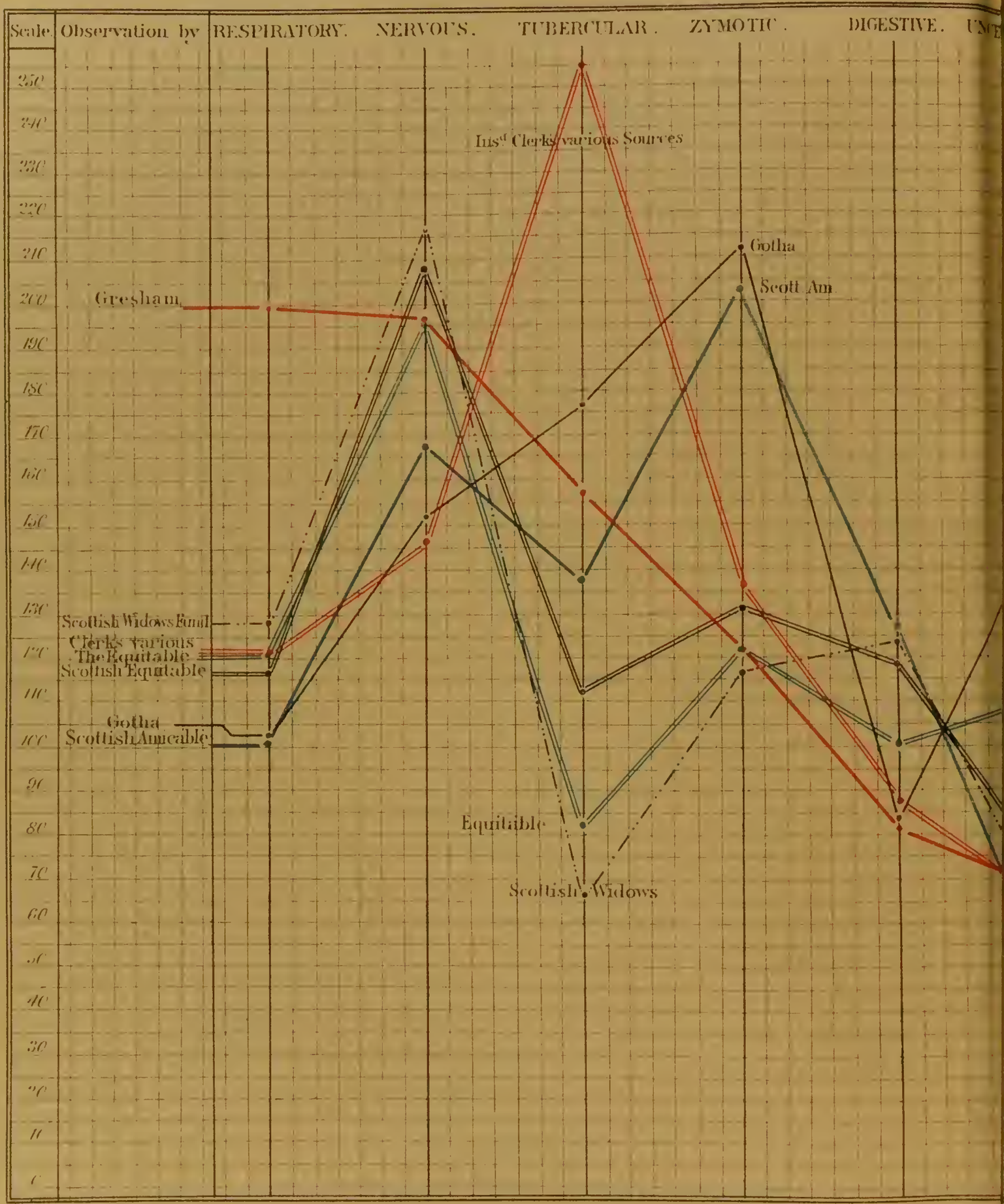
EACH CLASS OF DISEASE AT DIFFERENT AGES

M". CORRECTED TO 1000 DEATHS AT EACH AGE .



COMPARATIVE TABLE OF THE PROPORTIONAL MODE OF DEA

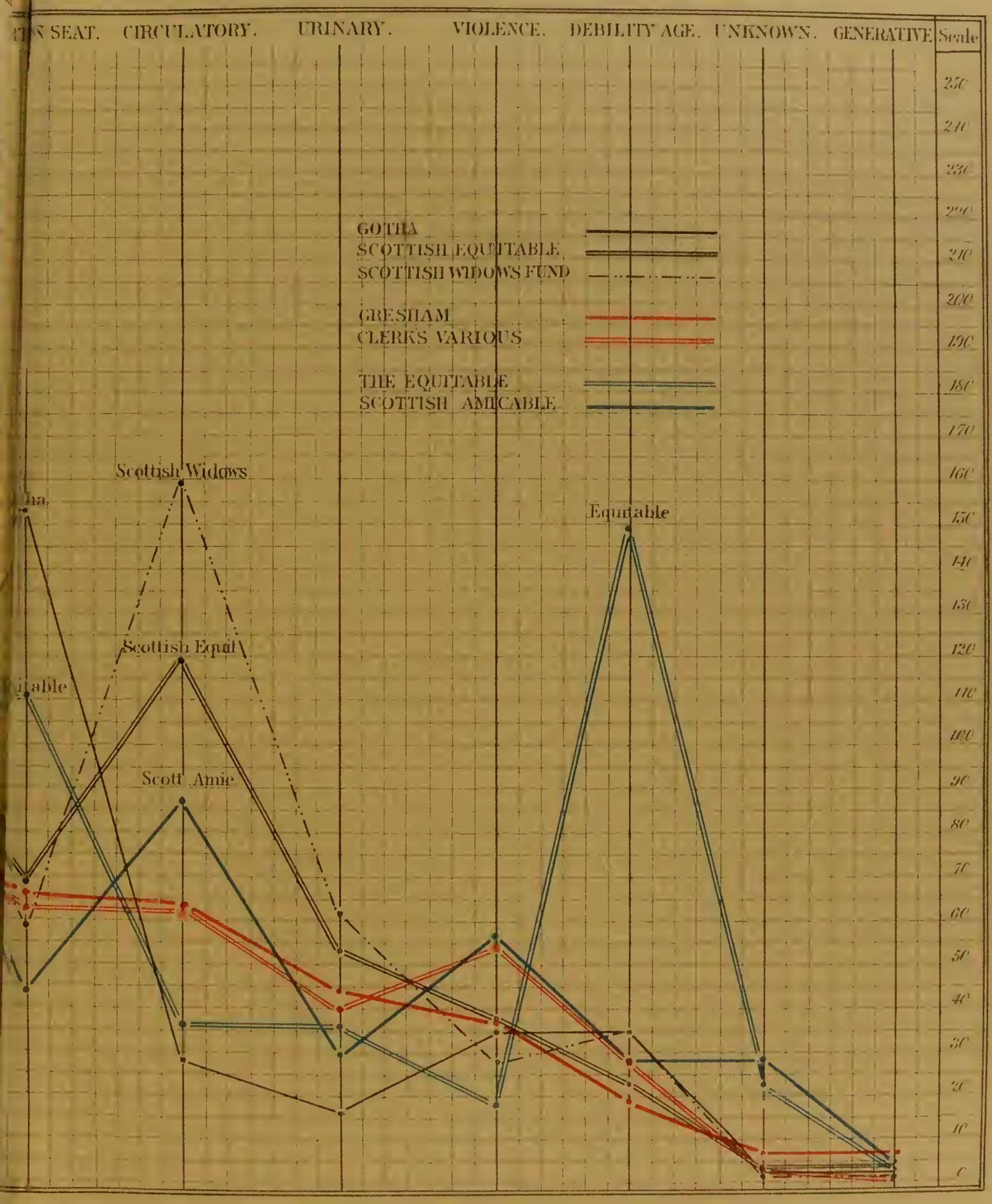
CORRECTED IN EACH CASE TO 1000



F. Allan Curtis fecit

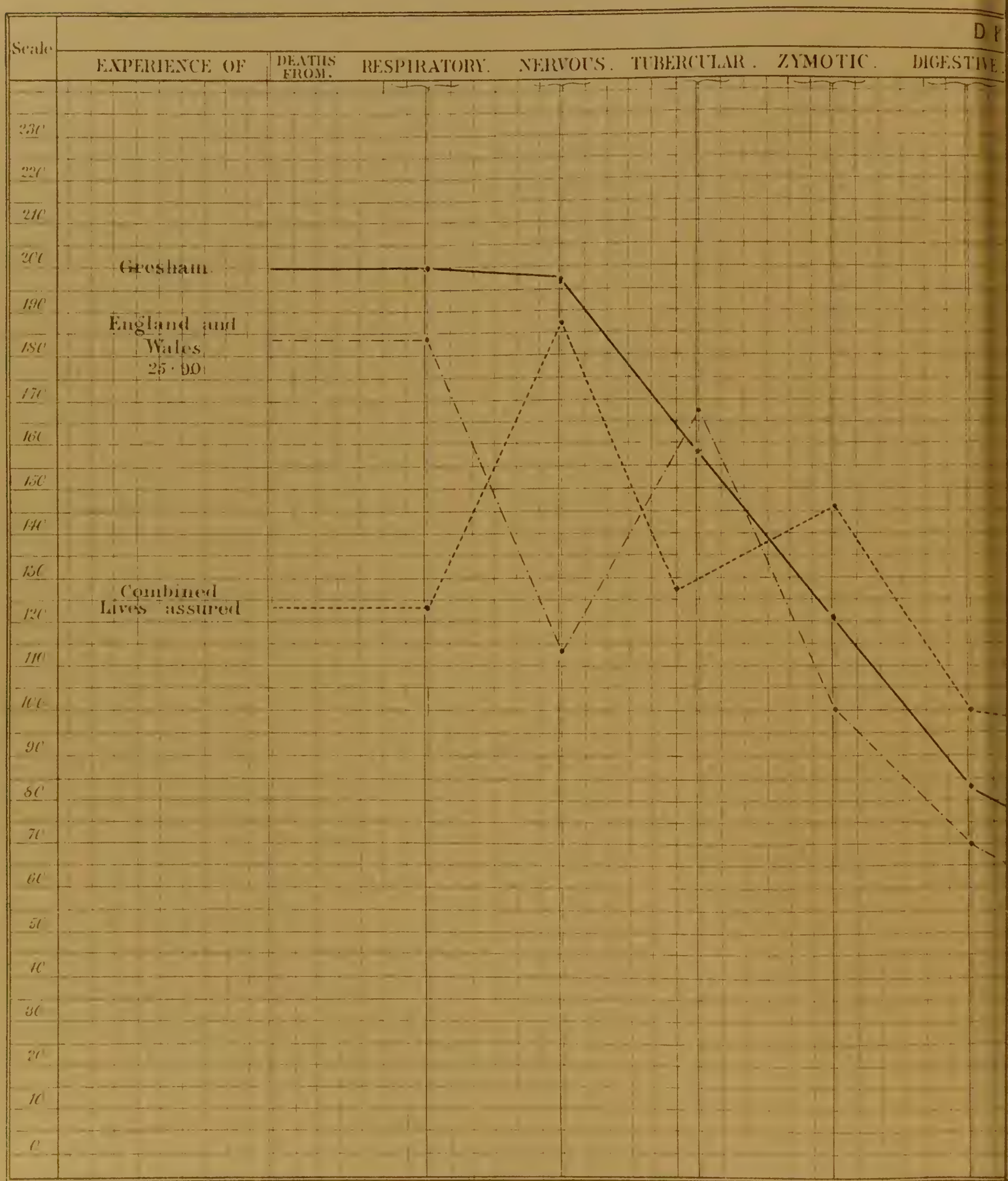
T ACCORDING TO THE EXPERIENCE OF VARIOUS OFFICES

DEATHS FROM ALL CAUSES.



COMPARATIVE TABLE OF THE PROPORTIONAL MOD

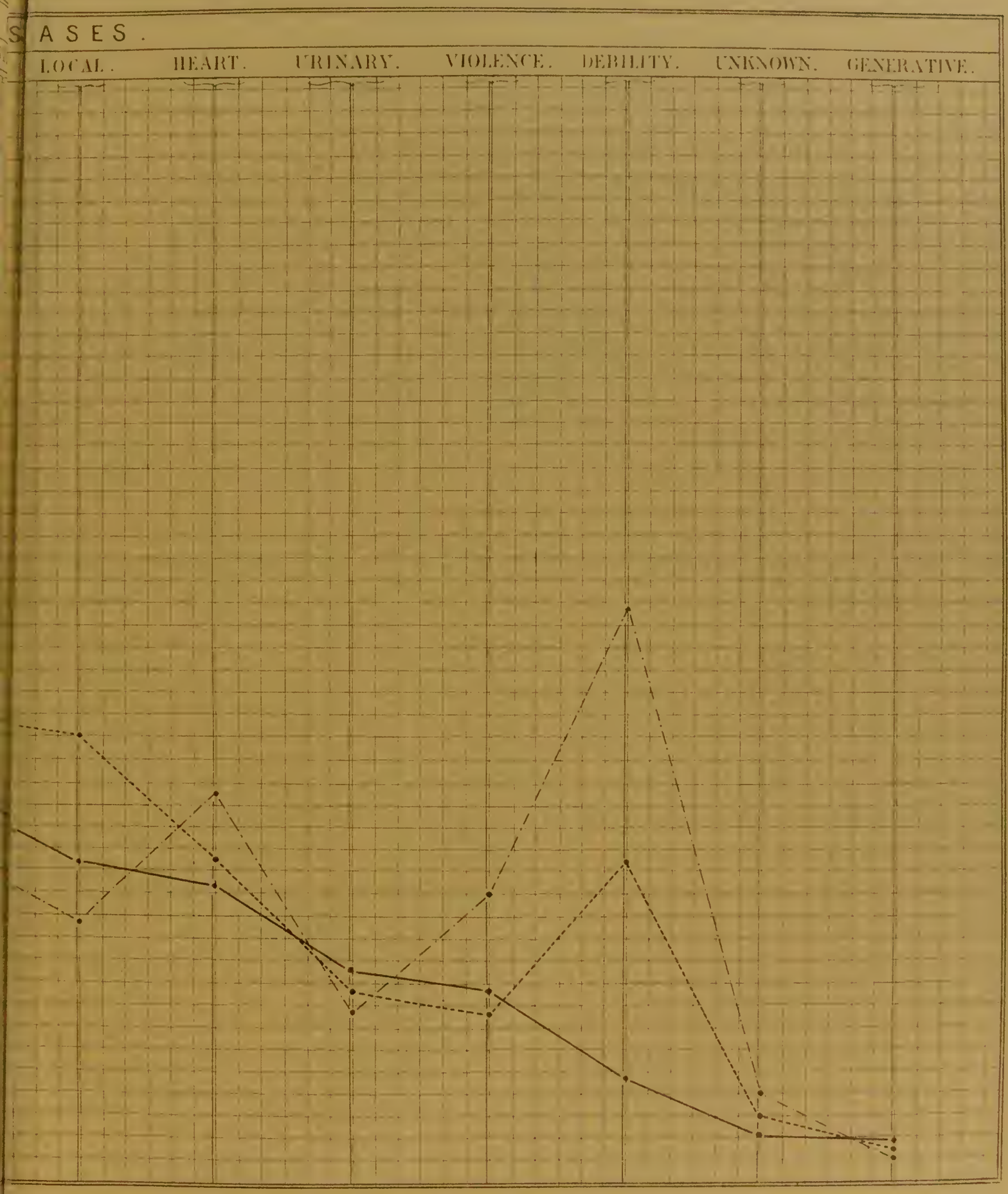
THE GRESHAM, ALL ENGLAND & COMBINED, LIVES ASSURED.



F. Allan Curtis fecit

OF DEATH ACCORDING TO THE EXPERIENCE OF

RRECTED IN EACH CASE TO 1000 DEATHS FROM ALL CAUSES.



GRESHAM

LIFE ASSURANCE SOCIETY.

PRESENTED
by the
AUTHOR.

THE

CAUSES OF DEATH:

TABULATED BY

A. H. SMEE, JUN., F.C.S.,

Assistant Medical Officer Gresham Life Assurance Society,

&c., &c.

REPORT PRESENTED TO THE BOARD OF DIRECTORS, JANUARY 21st, 1868.

1868.

[ENTERED AT STATIONERS' HALL.]

With the Author's Com

7, Finsbury Circus, E.C.

January 21*st*, 1868.

To the Board of Directors of the

Gresham Life Assurance Society.

Gentlemen,

I beg to submit the result of the examination as to the cause of death of all the claims which have fallen due from the commencement of the Society to July 15th, 1866, when 1,000 deaths had occurred.

It may be as well to state, that the formula which has been adopted for the Tables of Mortality, is a modification of that used by the Registrar-General, so that a comparison might be readily made with other Offices which have given to the public their medical experiences. The great object has been, in undertaking this examination, to give such data as may be most available for the use of medical men, to guide them in the selection of lives.

I first separated the deaths into twelve divisions, subdivided into specific diseases, and then found the number of deaths in each specific disease, dividing these into decennial periods of age, between 20· and 80·, as shown by Table A.

SPECIFIC DISEASE.

TABLES A.

ZYMOTIC.

CAUSE OF DEATH.	AGES UNDER							TOTAL.
	20	30	40	50	60	70	80	
Small Pox	...	1	...	3	...	...	...	4
Measles	...	...	1	...	...	...	...	1
Typhus	...	1	9	7	7	1	2	27
Typhoid	...	...	6	10	2	1	...	19
Other Fevers	...	3	8	6	1	2	...	20
Erysipelas	...	1	1	1	4	2	...	9
Metria	...	...	...	...	...	...	...	...
Carbuncle	...	2	...	1	2	...	...	5
Influenza	...	...	...	...	...	...	...	...
Diarrhœa	...	...	1	3	3	...	1	8
Cholera	...	...	2	1	2	1	1	7
Dysentery	...	...	3	4	1	...	...	8
Rheumatism	...	...	1	2	1	1	...	5
Pyæmia	...	1	2	1	...	...	...	4
Purpura	...	1	...	...	...	...	...	1
Intemperance	...	...	1	1	...	...	...	2
Cold	...	...	...	...	1	...	...	1
		10	35	40	24	8	4	121

DISEASES OF UNCERTAIN SEAT.

Gout	...	...	...	1	4	...	...	5
Dropsy	...	...	4	7	6	2	1	20
Cancer	...	1	3	6	7	3	1	21
Mortification, Gangrene	...	...	1	3	1	1	...	6
Tumour	...	...	1	1	1	1	...	4
Hæmorrhage	...	2	1	2	2	...	1	8
Abscess	...	1	...	1	...	...	...	2
Fistula	...	...	...	1	...	...	...	1
		4	10	22	21	7	3	67

Gresham Life Assurance Society.

TABLES A—*continued.*

TUBERCULAR DISEASES.

CAUSE OF DEATH.	AGES UNDER							TOTAL.
	20	30	40	50	60	70	80	
Scrofula	...	...	1	...	1	...	...	2
Phthisis	4	25	64	42	14	3	1	153
Tabes Mesenterica	...	...	1	...	1	...	...	2
Hydrocephalus	...	...	1	...	...	...	...	1
	4	25	67	42	16	3	1	158

DISEASE OF NERVOUS SYSTEM.

Apoplexy	...	...	19	16	31	13	4	83
Congestion of Brain	...	...	8	5	10	1	4	28
Paralysis	...	3	2	7	7	5	7	31
Insanity	...	1	2	1	1	1	...	6
Epilepsy	...	1	1	3	4	1	...	10
Disease of Brain and Cord	...	3	8	6	17	4	...	38
Tetanus	...	1	1	...	...	...	...	2
		9	41	38	70	25	15	198

DISEASE OF CIRCULATION.

Endocarditis	...	...	1	3	1	...	...	5
Pericarditis	...	...	1	3	4	3	...	11
Aneurism	...	...	2	2	...	2	1	7
Heart Disease	...	...	7	10	8	7	2	34
Angina Pectoris	...	...	...	3	1	1	...	5
			11	21	14	13	3	62

Gresham Life Assurance Society.

TABLES A—*continued.*

DISEASE OF RESPIRATORY ORGANS.

CAUSE OF DEATH.	AGES UNDER							TOTAL.
	20	30	40	50	60	70	80	
Inflam^n^ Larynx and Trachea	...	...	...	...	1	1	...	2
Bronchitis	...	2	14	15	16	14	7	68
Pleurisy	...	1	6	5	2	...	...	14
Pneumonia	...	2	7	7	6	5	2	29
Congestion of Lungs	1	4	11	6	11	2	3	38
Asthma	...	...	...	2	1	2	...	5
Hydro and Pneumo Thorax	...	...	4	...	...	...	1	5
Disease of Lungs	...	1	10	4	5	3	2	25
Hæmoptysis	...	1	6	3	4	...	...	14
	1	11	58	42	46	27	15	200

DISEASE OF DIGESTIVE ORGANS.

Gastritis Enteritis	...	2	2	2	2	...	...	8
Peritonitis	...	4	1	1	1	...	...	7
Ascites	...	...	...	1	2	...	...	3
Ulceration of Intestines	...	...	4	...	...	...	...	4
Hernia	...	...	...	1	...	1	1	3
Ileus	...	...	...	1	...	...	...	1
Stricture and other Disease of the Intestines	1	1	2	2	3	...	...	9
Stomach	...	...	7	8	3	...	...	18
Pancreas and Spleen	...	...	...	...	1	...	...	1
Hepatitis	...	...	...	...	2	1	...	3
Jaundice	...	1	1	1	1	1	...	5
Liver	...	1	7	5	1	4	...	18
Hæmatenisis	...	...	...	3	...	...	...	3
	1	9	24	25	16	7	1	83

DISEASE OF URINARY ORGANS.

Ischuria	...	...	1	1	...	1	...	3
Bright's Disease	...	...	2	4	4	4	...	14
Diabetes	...	...	1	1	...	...	...	2
Cystitis	...	...	...	2	2	5	1	10
Kidney Disease	1	...	2	6	4	1	...	14
	1	...	6	14	10	11	1	43

Gresham Life Assurance Society.

TABLES A—*continued.*

GENERATIVE.

CAUSE OF DEATH.	AGES UNDER							TOTAL.
	20	30	40	50	60	70	80	
Uterus and Ovaries	...	...	...	...	...	1	1	2
Child-birth	...	...	3	...	...	...	...	3
			3	...	...	1	1	5

CAUSES ILL-DEFINED.

Old Age	...	...	...	...	1	2	10	13
Debility and Atrophy	...	...	1	2	3	...	...	6
Syncope and Sudden Death	...	...	...	...	...	...	...	...
			1	2	4	2	10	19

VIOLENT DEATHS.

Drowning	1	...	2	8	2	1	...	14
Accidents	2	...	6	2	...	2	...	12
Suicide	...	4	3	4	1	...	...	12
	3	4	11	14	3	3	...	38

DEATHS—CAUSE NOT STATED.

Unknown 6

The order of frequency of death was next determined, and has been given in

TABLE B.

Phthisis	153
Apoplexy	83
Bronchitis	68
Congestion of Lungs	38
Disease of Brain	38
Disease of Heart	34
Paralysis	31
Pneumonia	29
Typhus Fever	27
Congestion of Brain	28
Disease of Lungs	25
Cancer	21
Dropsy	20
Fevers (not specified)	20
Typhoid Fever	19
Liver	18
Diseases of Stomach	18
Disease of Kidneys	14
Drowning	14
Bright's Disease	14
Hæmoptysis	14
Old Age	13
Pleurisy	14
Accidents	12
Pericarditis	11
Suicide	12
Epilepsy	10
Cystitis	10
Erysipelas	9
Stricture of Intestines	9
Diarrhœa	8
Dysentery	8
Gastritis	8
Cholera	7
Hæmorrhage	7
Aneurism	7
Peritonitis	7
Insanity	6
Gangrene	6
Debility	6
Gout	5
Rheumatism	5
Carbuncle	5
Asthma	5
Pneumothorax	5
Jaundice	5
Angina Pectoris	5
Endocarditis	5
Tumour	4
Ulceration of Intestines	4
Small Pox	4
Pyæmia	4
Abscess	3
Ascites	3
Hernia	3
Hepatitis	3
Hæmatemesis	3
Ischuria	3
Child Birth	3
Intemperance	2
Inflamation of Trachea	2
Scrofula	2
Tabes Mesenterica	2
Tetanus	2
Diabetes	2
Uterus and Ovaries	2
Fistula	1
Cold	1
Purpura	1
Measles	1
Ileus	1
Disease of Pancreas	1
Hydrocephalus	1
Unknown	6

In Table C, I have shown the deaths in twelve divisions, of the whole Gresham, divided according to decennial periods of age.

TABLE C.

DEATHS OF GRESHAM LIFE IN CLASSES.

Cause of Death.	Ages under 20	30	40	50	60	70	80	Total.
Zymotic	...	10	35	40	24	8	4	121
Uncertain Seat	...	4	10	22	21	7	3	67
Tubercular	4	25	67	42	16	3	1	158
Brain	...	9	41	38	70	25	15	198
Circulatory	...	...	11	21	14	13	3	62
Respiratory	1	12	57	43	46	26	15	200
Digestive	1	9	24	25	16	7	1	83
Urinary	1	...	6	14	10	11	1	43
Generative	...	...	3	...	...	1	1	5
Age, Debility	...	...	1	2	4	2	10	19
Unknown	...	...	2	2	1	1	...	6
Violent	3	4	11	14	3	3	...	38
	10	73	268	263	225	107	54	1000

Since the business of the Gresham is divided into three distinct classes, viz., Healthy English, English at extra rates, and Continental Lives, I examined the causes of death in the three classes, according to their divisions, and divided into decennial periods, and the result is given in Tables D, E, F. No life out of England is assured where the state of health requires an extra rate, and the number of Foreign Lives, not European, is so insignificant as not to require isolation, being too trifling to affect the general result.

TABLE D.

HEALTHY LIVES—ENGLISH.

Zymotic	...	3	11	10	8	3	2	37
Uncertain Seat	...	2	4	12	9	1	2	30
Tubercular	2	12	34	25	8	3	...	84
Brain	...	4	21	11	28	10	11	85
Circulatory	...	...	1	7	3	5	2	18
Respiratory	...	1	20	15	20	9	7	72
Digestive	...	5	15	8	6	3	...	37
Urinary	1	...	4	4	3	5	...	17
Carried forward...	3	27	110	92	85	39	24	380

In TABLE G, I have compared the deaths of the entire GRESHAM with the three component parts—Healthy English, English at extra rates, and Continental—all corrected for more easy comparison in 1,000 lives.

TABLE G.

The INTENSITY of DISEASE on an AVERAGE of 1,000 DEATHS.

	Whole, Gresham.	English normal rates.	English extra rates.	Continental.	Austria.	Italy.	Healthy and Continental.
Zymotic	121.0	89.8	87.4	172.9	268.5	214.3	129.7
Uncertain Seat	67.0	72.8	87.4	49.7	64.8	58.4	61.7
Tubercular	158.0	203.9	169.9	102.0	92.6	45.5	153.7
Nervous System	198.0	206.3	174.3	198.9	111.1	194.7	202.7
Circulatory	62.0	43.7	87.4	68.0	37.3	77.9	56.6
Respiratory	200.0	174.8	199.0	230.6	259.3	220.8	201.5
Digestive	83.0	89.8	77.7	78.4	46.3	64.9	84.4
Urinary	43.0	41.3	53.8	39.3	18.5	19.4	40.3
Generative	5.0	9.7	4.9	...	...	19.5	5.1
Age, Debility	19.0	14.5	33.9	15.7	27.7	19.5	15.2
Violence	38.0	51.0	19.4	34.0	46.2	45.5	42.8
Unknown	6.0	2.4	4.9	10.5	27.7	19.6	6.3
	1000	1000	1000	1000	1000	1000	1000

I have abstracted in TABLE H the number of deaths, corrected to 1,000, of the Male Population of England, for the purpose of comparison with the mortality of the GRESHAM. I have prepared five separate Tables, the 1st shewing the number of deaths between 20—55; the 2nd, 25—45; the 3rd, 25—65; the 4th, 25—90; the 5th, 45—55.

TABLE H.

ALL ENGLAND MALE LIVES—Reduced to 1000.

	20-55.	25-45.	25-65.	25-90.	45-55.
Zymotic	120.4	126.2	105.5	99.9	111.1
Uncertain Seat	40.9	32.3	52.4	52.5	50.3
Tubercular	281.0	322.7	201.3	165.7	211.2
Nervous System	103.8	98.5	122.6	113.1	118.4
Circulatory	82.3	82.3	91.1	84.1	94.4
Respiratory	150.8	127.4	176.0	182.9	181.1
Digestive	73.4	68.9	77.4	69.6	93.0
Urinary	29.0	25.3	33.2	32.7	32.1
Generative	.3	4.2	.3	.3	.4
Age and Debility	25.1	15.6	63.0	123.7	19.7
Violent Deaths	86.1	94.2	70.0	59.9	80.7
Not Specified	6.9	2.4	7.2	15.6	7.6
	1000	1000	1000	1000	1000

Gresham Life Assurance Society.

Various Companies have given to the world their mortality experience, which I have given in detail in TABLE I, and for more convenient comparison, I have in TABLE K corrected them each to 1,000.

TABLE I.

TOTAL DEATHS.

DISEASE.	Gresham.	Scottish Amicable.	Scottish Equitable.	Clerks Insured, various sources.	Equitable.	Gotha.	Scottish Widows' Fund.
							7 Year, 1856–60.
Zymotic	121	157	245	137	499	521	163
Uncertain Seat	67	34	125	62	456	380	82
Tubercular	158	107	210	257	339	437	96
Nervous System	198	130	390	147	821	375	303
Circulatory System	62	67	220	63	149	69	221
Respiratory System	200	78	219	125	508	251	180
Digestive System	83	97	220	87	407	207	172
Urinary System	43	23	99	41	148	40	87
Generative	5	3	8	2	4	10	2
Age, Sudden Death	19	16	44	27	609	86	49
Violence	38	43	70	54	76	87	40
Unknown	6	18	5	6	79	8	3
	1000	773	1855	1008	4095	2471	1398

TABLE K.

DEATHS—Reduced to 1000.

DISEASE.	Gresham.	Scottish Amicable.	Scottish Equitable.	Gotha.	Clerks Insured, various sources.	Equitable.	Scottish Widows' Fund.
Zymotic	121.0	203.1	132.1	210.8	136.0	121.9	116.6
Uncertain Seat	67.0	44.0	67.4	153.8	61.5	111.4	58.6
Tubercular	158.0	138.4	113.6	176.8	254.9	82.8	68.7
Nervous System	198.0	168.2	210.3	151.7	145.8	200.5	216.7
Circulatory System	62.0	86.7	118.6	27.9	62.5	36.4	158.1
Respiratory System	200.0	100.9	118.0	101.6	124.0	124.0	128.8
Digestive System	83.0	125.5	118.6	83.8	86.3	99.3	123.0
Urinary	43.0	29.7	53.3	16.2	40.7	36.2	62.3
Generative	5.0	3.9	4.3	4.1	1.9	.9	1.4
Debility, Age & Sudn. Death	19.0	20.7	23.2	34.8	26.8	148.7	35.0
Violence	38.0	55.6	37.7	35.2	53.6	18.5	28.6
Unknown	6.0	23.3	2.9	3.3	6.0	19.4	2.2
	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0